AMENDMENTS TO THE CLAIMS:

Please cancel claims 1 to 18 without prejudice and add the new claims 19 to 40:

Claims 1 to 18. (canceled)

19. (new) A device for measuring a thickness of a transparent sample (2), said device comprising:

a first incident light beam (L1) obliquely incident on a front surface (8) of the transparent sample (2) at a first incident angle ($\alpha 1$);

a second light beam (L2) obliquely incident on said front surface (8) of the transparent sample (2) at a second incident angle ($\alpha 2$), the first incident angle ($\alpha 1$) and the second incident angle ($\alpha 2$) differing from each other;

a third incident light beam (L3) parallel to the first incident light beam (L1) or parallel to the second incident light beam (L2), said third incident light beam (L3) being directed toward said front surface (8) of the transparent sample (2);

a first detector (11) that detects respective reflected light beams (L1', L1") produced by partial reflection of the first incident light beam (L1) from said front surface (8) and from a rear surface (13) of the transparent sample (2), that determines corresponding positions of both of said reflected light beams (L1', L1"), and that determines a spacing between said reflected light beams (L1', L1") produced by partial reflection of the first incident light beam (L1) from said front surface and from said rear surface; and

a second detector (12) that detects respective reflected light beams (L2', L2") produced by partial reflection of the second incident light beam (L2) from

said front surface (8) and from said rear surface (13) of the transparent sample (2), that determines corresponding positions of both of said reflected light beams (L2',L2") and a spacing between said reflected light beams (L2', L2") produced by partial reflection of the second incident light beam (L2) from said front surface and from said rear surface;

wherein one of said first detector (11) and said second detector (12) is arranged to detect a reflected light beam (L3') produced by partial reflection of the third incident light beam (L3) from the transparent sample (2) and to determine a position of the reflected light beam (L3') produced by partial reflection of the third incident light beam (L3) from the transparent sample (2).

20. (new) The device as defined in claim 19, wherein said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3) are laser beams.

21. (new) The device as defined in claim 19, further comprising two beam splitters (3, 4) that are arranged to produce said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3) from a single light beam (L).

22. (new) The device as defined in claim 19, further comprising an evaluation device connected to said first detector (11) and said second detector (12) and wherein said evaluation device determines said thickness of the transparent

sample (2), an inclination correction, a wedge angle correction and/or a curvature correction.

23. (new) The device as defined in claim 22, wherein said evaluation device determines said thickness and said curvature correction.

24. (new) The device as defined in claim 19, further comprising means for switching off the third incident light beam (L3).

25. (new) The device as defined in claim 19, wherein said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3); said reflected light beams (L1', L1") produced by partial reflection of the first incident light beam (L1); and said reflected light beams (L2', L2") produced by partial reflection of the second incident light beam (L2) are arranged in a common plane.

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26. (new) The device as defined in claim 19, wherein said first detector (11) is spaced from said second detector (12) and wherein a region of incidence (10) of said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3) on the transparent sample (2) is smaller than a spacing between said first detector (11) and said second detector (12).

27. (new) The device as defined in claim 19, wherein said first detector (11) and said second detector (12) are spaced apart, have respective sensor surfaces facing each other, and are oriented so that said sensor surfaces are perpendicular to the front surface (8) of said transparent sample (2).

28. (new) The device as defined in claim 19, wherein the first incident angle ($\alpha 1$) and the second incident angle ($\alpha 2$) are arranged in a beam plane (14), which is defined by the first incident light beam (L1) and the second incident light beam (L2), on different sides of a sample normal (9) in a region of incidence (10) of said light beams.

29. (new) The device as defined in claim 19, wherein the transparent sample (2) and the device are movable relative to each other.

30. (new) The device as defined in claim 29, further comprising guide means for guiding and/or aligning the transparent sample during motion of the transparent sample relative to each other.

31. (new) The device as defined in claim 19, wherein the transparent sample (2) is movable relative to the device in a direction of movement (15) and in a common beam plane (14) defined by the incident light beams (L1, L2, L3) and/or the reflected light beams (L1', L1", L2', L2", L3').

32. (new) A method of measuring a thickness of a transparent sample (2), in which:

a first incident light beam (L1) is incident obliquely on a front surface (8) of the transparent sample (2) at a first incident angle ($\alpha 1$), and respective positions of a reflected light beam (L1') produced by partial reflection of the first incident beam (L1) from said front surface (8) and of a reflected light beam (L1") produced by partial reflection of the first incident beam (L1) from a rear surface (13) of the transparent sample (2) are determined;

a second incident light beam (L2) is incident obliquely on the front surface (8) of the transparent sample (2) at a second incident angle ($\alpha 2$), said second incident angle ($\alpha 2$) differing from the first incident angle ($\alpha 1$), and respective positions of a reflected light beam (L2') produced by partial reflection of the second incident light beam (L2) from the front surface (8) and of a reflected light beam (L2") produced by partial reflection of the second incident light beam (L2) from the rear surface (13) are determined;

the thickness of the transparent sample (2) is determined from a spacing between said reflected light beams (L1', L1") produced by partial reflection from the first incident light beam (L1) and/or is determined from a spacing between said reflected light beams (L2', L2") produced by partial reflection from the second incident light beam (L2);

an inclination correction is carried out, said inclination correction comprising comparing respective positions of said reflected light beams (L1', L2') produced from the first incident light beam and the second incident light

beam by partial reflection from the front surface (8) of the transparent sample (2), and/or a wedge angle correction is carried out, said wedge angle correction comprising comparing said spacing between said reflected light beams (L1', L1") produced by partial reflection of the first incident light beam (L1) from the front surface and from the rear surface respectively and said spacing between said reflected light beams (L2', L2") produced by partial reflection of the second incident light beam (L2) from the front surface and from the rear surface respectively;

a third incident light beam (L3) is incident obliquely on the front surface (8), is parallel to the first incident light beam (L1) or parallel to the second incident light beam (L2), and is spaced at a given spacing from the first incident light beam (L1) or the second incident light beam (L2); and

a curvature correction is carried out, said curvature correction comprising determining relative positions of the reflected light beams (L3', L1'; L3', L2') produced by partial reflection of the third incident light beam (L3) and of the first incident light beam (L1) from the front surface or produced by partial reflection of the third incident light beam (L3) and the second incident light beam (L2) from the front surface (8), and determining a spacing between the reflected light beams (L3', L1'; L3', L2') produced by partial reflection of the third incident light beam (L3) and the first incident light beam (L1) from the front surface or produced by partial reflection of the third incident light beam (L3) and the second incident light beam (L2) from the front surface.

33. (new) The method as defined in claim 32, wherein the first incident light beam (L1) and the second incident light beam (L2) are incident on the front surface (8) of the transparent sample (2) in a region of incidence (10), in a beam plane (14) defined by the first incident light beam (L1) and the second incident light beam (L2), and from different sides of a sample normal (9) perpendicular to the front surface (8) of the sample (2).

34. (new) The method as defined in claim 32, wherein the first incident angle ($\alpha 1$) and the second incident angle ($\alpha 2$) are equal in absolute value.

35. (new) The method as defined in claim 34, wherein said absolute value is preferably 45°.

36. (new) The method as defined in claim 32, wherein the presence of a wedge angle (δ) is detected when said spacing between said reflected light beams (L1', L1") produced from the first incident light beam (L1) does not correspond to said spacing between said reflected light beams (L2', L2") produced from the second incident light beam (L2) .

37. (new) The method as defined in claim 32, wherein a radius of curvature (R) is determined from said spacing between the reflected light beam (L3') produced from the third incident light beam (L3) and the reflected light beam (L1') produced from the first incident light beam (L1) by partial reflection from the front surface or

is determined from said spacing between the reflected light beam (L3') produced from the third incident light beam (L3) and the reflected light beam (L2') produced from the second incident light beam (L2) by partial reflection from the front surface.

38. (new) The method as defined in claim 37, wherein refractive power is determined from said radius of curvature (R).

39. (new) The method as defined in claim 32, wherein said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3) are laser beams.

40. (new) The device as defined in claim 39, further comprising forming said first incident light beam (L1), said second incident light beam (L2), and said third incident light beam (L3) from a single laser beam by means of two beam splitters (3, 4).